

REMARKS

This Reply is in response to the Office Action mailed on January 26, 2007 in which claim 50-51 were allowed; in which claims 10, 13-18, and 25-29 were objected to and in which 1-9, 11, 12, 19-24, 30-32, 44 and 52 were rejected. With this response, claims 3, 11, 32 and 52 are amended. Claims 53-59 are added. Claims 1-32, 44, and 50-59 are presented for reconsideration and allowance.

I. Examiner Interviews Summary

On April 25, 2007, a telephonic interview was held between Examiner Dinh and Applicants' attorney, Todd A. Rathe. The objection to the claims set forth in Section 2 of the Office Action, the rejection of claims 1, 23, 44 and 52 based upon Feigenbaum, the rejection of claim 3 based upon Feigenbaum and the rejection of claim 32 and 52 were discussed. It was agreed upon that the objection set forth in Section 1 of the Office Action to claims 1, 3-5, 8 and 10 would be withdrawn based upon Applicants' explanation. In particular, Applicants noted that the language of claim 1 generally means that the first structure is movably coupled to one of the electronic component and the circuit board prior to being coupled to the other of the electronic opponent in the circuit board.

It was further agreed upon that the rejection of claim 3 based upon Feigenbaum would be withdrawn. The Examiner agreed with Applicants' assertion that Feigenbaum fails to disclose a third threaded portion screwed to a first threaded portion and a second threaded portion. As once again noted by Applicants, hole 48 of Feigenbaum is a through hole.

Although no agreement was reached with respect to the rejection of claims 1, 23, 44 and 52 based upon Feigenbaum or the rejection of claims 32 and 52 based upon Feigenbaum, Applicants wish to thank Examiner Dinh for the opportunity to discuss the rejections.

On April 20 5, 2007, a brief Examiner Interview was held between Examiner Dean and Applicants' attorney, Todd A. Rathe. The language of claims 1, 23, 44 and 52 was discussed. No

agreement was reached. Examiner Dean suggested a follow-up interview regarding such issues in a few weeks. Applicants wish to thank Examiner Dean for the opportunity to discuss the pending rejections.

II. Claim Objections

Section 1 of the Office Action objected to claims 1, 3-5, 8 and 10 asserting that such claims are unclear. As noted above, during the Examiner Interview held on April 25, 2007, it was agreed upon that such objections would be withdrawn.

III. Rejection of Claims 1-9, 11-12, 19-24, 30-32, 44 and 52 under 35 USC 102(e) Based upon Feigenbaum

Section 3 of the Office Action rejected claims 1-9, 11-12, 19-24, 30-32, 44 and 52 under 35 USC 102(e) as the anticipated by Feigenbaum et al. US Patent 6,614,659. For the reasons which follow, Applicants respectfully request that the rejection be withdrawn.

A. Claim 1

Claim 1 recites a circuit board assembly including a first structure coupling and electronic opponent to a circuit board and retaining the electronic opponent relative to the circuit board at a selected one of a plurality of positions in both directions along an axis perpendicular to the circuit board. Claim 1 further recites that the first structure is movably coupled to one of the electronic opponent in the circuit board for movement in a direction perpendicular to the first axis at least prior to being coupled to the other of the electronic opponent in the circuit board. An example of this arrangement is shown in Figure 9 in which structure 258 retains processor component 226 to circuit board 222 at one of a plurality of positions (as provided by the inter engagement of threads 308 and 332) in both directions along an axis 242. At the same time, prior to being connected to circuit board 222, structure 258 is movable in a direction perpendicular to axis 242 due in part to gap G.

Feigenbaum fails to disclose or suggest a circuit board assembly wherein a first structure couples electronic opponent to a circuit board and retains the electronic component relative to the circuit board at a selected one of the plurality of positions in both directions along an axis perpendicular to the circuit board and, at the same time, is movably coupled to one of the electronic opponent and the circuit board for movement in a direction perpendicular to the first axis at least prior to being coupled to the other of the electronic opponent and the circuit board. In rejecting claim 1, the Office Action characterizes receptacle 12 as a structure coupling module 18 relative to circuit board 20 at one of a plurality of positions along a first axis perpendicular to circuit board 20.

However, this is incorrect. Receptacle 12 does not retain module 18 at a selected one of a plurality of positions along an axis perpendicular to circuit board 20. In contrast, receptacle 12 and screws 16 merely retain module 18 at a single position with respect to circuit board 22. The only time that module 18 is retained in both directions along an axis perpendicular to circuit board 20 is when screws 16 are tightened down into bosses 52. The arrangement of Feigenbaum does not provide a plurality of positions at which module 18 may be selectively retained relative to circuit board 20 in both directions along an axis perpendicular to circuit board 20. Alternatively, if the screws 16 are loose such that module 18 may be moved up and down between different positions relative to circuit board 20, then module 18 is not “retained in both directions along an axis” perpendicular to circuit board 20. Thus, the rejection of claim 1 should be withdrawn. Claims 2-9, 11-12 and 19-20 depend from claim 1 and overcome the rejection for the same reasons.

B. Claim 23

Claim 23 recites an electronic component mounting unit which includes an electronic component and a structure coupled to the electronic component and configured to be releasably coupled to a circuit board to retain electronic component relative to the circuit board at selected one of a plurality of positions in both directions along an axis perpendicular to the circuit board.

The structure is movably coupled to the electronic opponent for movement in a direction perpendicular to the axis at least prior to being coupled to the circuit board.

Feigenbaum fails to disclose an electronic component mounting unit having a first structure which is configured to retain electronic component relative to the circuit board at selected one of a plurality of positions in both directions along an axis perpendicular to the circuit board. As discussed above with respect to the rejection of claim 1, receptacle 12 of Feigenbaum does not retain module 18 at a selected one of a plurality of positions along an axis perpendicular to circuit board 20. In contrast, receptacle 12 and screws 16 merely retain module 18 at a single position with respect to circuit board 22. The only time that module 18 is retained in both directions along an axis perpendicular to circuit board 20 is when screws 16 are tightened down into bosses 52. The arrangement of Feigenbaum does not provide a plurality of positions at which module 18 may be selectively retained relative to circuit board 20 in both directions along an axis perpendicular to circuit board 20. Alternatively, if the screws 16 are loose such that module 18 may be moved up and down between different positions relative to circuit board 20, then module 18 is not “retained in both directions along an axis” perpendicular to circuit board 20. Thus, the rejection of claim 23 should be withdrawn. Claims 24 and 30-31 depend from claim 23 and overcome the rejection for the same reasons.

C. Claim 44

Claim 44 recites a circuit board assembly including an electronic opponent, a circuit board and means for retaining the electronic opponent relative to the circuit board in a selected one of a plurality of positions in both directions along an axis.

As noted above with respect to both claims 1 and 3, Feigenbaum fails to disclose an electronic component mounting unit having a first structure which is configured to retain an electronic component relative to the circuit board at selected one of a plurality of positions in both directions along an axis perpendicular to the circuit board. Receptacle 12 of Feigenbaum does not retain module 18 at a selected one of a plurality of positions along an axis perpendicular

to circuit board 20. In contrast, receptacle 12 and screws 16 merely retain module 18 at a single position with respect to circuit board 22. The only time that module 18 is retained in both directions along an axis perpendicular to circuit board 20 is when screws 16 are tightened down into bosses 52. The arrangement of Feigenbaum does not provide a plurality of positions at which module 18 may be selectively retained relative to circuit board 20 in both directions along an axis perpendicular to circuit board 20. Alternatively, if the screws 16 are loose such that module 18 may be moved up and down between different positions relative to circuit board 20, then module 18 is not “retained in both directions along an axis” perpendicular to circuit board 20.

D. Claims 32 and 52

Claim 32 depends from claim 23. Claim 32, as amended, recites that the first structure including surface extending oblique relative to the axis and configured to engage a surface coupled to the circuit board during movement of the structure along the axis so as to also cause translation of the first structure in the direction perpendicular to the axis relative to the electronic component. Paragraph [0053] of the present application provides details regarding one example embodiment supporting the limitations of claim 32.

Claim 52 recites an electronic component mounting unit which includes an electronic component and a structure coupled to the electronic component and configured to be releasably coupled to a circuit board to retain electronic component relative to the circuit board at selected one of a plurality of positions in both directions along an axis perpendicular to the circuit board. The structure is movably coupled to the electronic component for movement in a direction perpendicular to the axis at least prior to being coupled to the circuit board. Claim 13 further recites that the first structure including surface extending oblique relative to the axis and configured to engage a surface coupled to the circuit board during movement of the structure along the axis so as to also cause translation of the first structure in the direction perpendicular to the axis relative to the electronic component.

Feigenbaum fails to disclose a first structure which retains the electronic component relative to the circuit board at a selected one of a plurality of positions in both directions along an axis perpendicular to the circuit board, wherein the first structure additionally includes a surface oblique to the axis and configured to engage a surface coupled to the circuit board during movement of the structure along the axis so as to also cause translation of the first structure in the direction perpendicular to the axis.

In rejecting claims 32 and 52, the Office Action seeks to assert that the screw thread of screws 16 comprises a surface extending oblique relative to the axis. However, the Office Action fails to provide any support or any allegation as to how the screw thread of screws 16 of Feigenbaum also engages a surface coupled to the circuit board during movement of screws 16 along the axis so as to also cause movement or translation of screw 16 in a direction perpendicular to the axis. At most, the screw threads of screws 16 merely cause rotation, not translation of screws 16. The defined meaning of the translation is that all points of an object move along parallel paths, precluding rotation. Accordingly, claim 32 and 52, as amended, overcome the rejection.

E. Claim 3

Claim 3 depends from claim 1 and further recites a first threaded portion coupled to the other of the electronic component in the circuit board, a second structure movably coupled to said one of the electronic component in the circuit board to move in at least one direction perpendicular to the first axis, the second structure having a second thread portion, wherein the first structure has a third threaded portion and wherein the third threaded portion is screwed to the first threaded portion and the second threaded portion. An example of such a claimed arrangement is shown in Figure 9 which illustrates threaded portion 332 screwed to threaded portion 308 and threaded portion 294.

As noted above, during the Examiner Interview held on April 20 5, 2007, it is agreed upon at the rejection of claim three based upon Feigenbaum would be withdrawn.

E. Claims 4 and 5

Claim 4 depends from claim 3 and recites that the second structure is coupled to said one of the electronic component and the circuit board against complete rotation about the first axis. Claim 5 depends from claim 4 and recites that the second structure is keyed to said one of electronic component and the circuit board against complete rotation about the first axis.

Feigenbaum fails to disclose these recited limitations. Hole 48 of Feigenbaum (characterized as the second structure) is not coupled to the electronic component against complete rotation about an axis and it's certainly not keyed against complete rotation. Thus, the rejection of claims 4 and 5 should be withdrawn for these additional reasons.

F. Claim 6

Claim 6 depends from claim 5 and recites that the second structure includes at least one projection received within a corresponding opening formed in the electronic component to prevent complete rotation of the second structure about the first axis.

In rejecting claim 6, the Office Action asserts that Feigenbaum discloses a second structure (48) including at least one projection received within a corresponding opening formed in the electronic component 18. Clearly, a hole cannot include a projection. Thus, the rejection of claim 6 should be withdrawn.

G. Claim 11

Claim 11, as amended, depends from claim 1 and recites that the electronic component includes a post and that the first structure consists of a single integral unitary structure and extends within the post.

Feigenbaum does not disclose an electronic component having a post and a first structure consisting of a single integral unitary structure that extends within the post. Boss 52 (characterized as the post by the Office Action) is clearly not part of module 18. Moreover,

receptacle 12 (characterized as the first structure) does not extend within the post. Although screws 16 may extend within bosses 52, screws 16 do not retain module 18 at a selected one of a plurality of positions in both directions along the axis. Accordingly, claim 11, as amended, overcomes the rejection.

IV. Rejection of Claims 19-20 and 30-31 under 35 USC 103(a) Based upon Feigenbaum

Sections 5 of the Office Action rejected claims 19-20 and 30-31 under 35 USC 103(a) as being unpatentable over Feigenbaum et al. US Patent 6,614,659. For the reasons that follow, such rejection should be withdrawn.

Claims 19 and 30 depend from claims 1 and 23, respectively and recite that the first structure is movable in a direction perpendicular to the first axis by a distance at least 0.3 mm. Claims 20 and 31 depend from claims 19 and 30, respectively, and further recite that the first structure is movable in a direction perpendicular to the first axis by distance no greater than 0.9 mm.

As acknowledged by the Office Action, Feigenbaum fails to disclose that the first structure is movable in a direction perpendicular to the first axis by distance a range of 0.3 to 0.9 mm. As a result, the Office Action attempts to make the unsupported assertion that:

It would have been obvious to one having ordinary skill in the art at the time the invention was made to have a movable range of the first structure between 0.3-0.9 mm for the purpose of providing of a minimum size of a connection between the structure to the circuit board. Since it has been held that where the general conditions of the claims are disclosed in prior art discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233.

(Office Action dated January 26, 2007; pgs. 6-7).

However, this alleged basis for the rejection of the claims is improper because (1) not even the "general condition" of the claims has been met in that nowhere does Feigenbaum disclose that structure 12 is movable at all and (2) the alleged motivation of "providing a minimum size of a connection between the structure and the circuit board" is not found in Feigenbaum, nor has the Examiner shown where such motivation is found in any other art. First, this is not simply a case of Feigenbaum disclosing a range of motion outside the claimed range of motion. In the present case, the "general condition" would presumably be that structure 12 is movable but is not simply disclosed as being movable within the particular the recited range. However, nowhere does Feigenbaum disclose that structure 12 when securing module 18 is even movable by **any** distance. In fact, it would seem that the whole point of Feigenbaum is to prevent movement of structure 12 and module 18 using screws 16. The case law cited by the Examiner is inapplicable.

Second, even assuming, arguendo, that Feigenbaum did disclose a structure 12 that was movable, nowhere does Feigenbaum provide the alleged motivation relied upon by the Examiner for the modification of Feigenbaum so as to meet the limitations of the claims. Nowhere does Feigenbaum provide any motivation or suggestion for the need to "provide a minimum size of connection". Moreover, the Examiner fails to cite to any other general knowledge of those of ordinary skill in the art for such a motivation. Rather, the sole motivation would appear to be impermissibly coming from Applicants' own disclosure. Accordingly, the rejection of claims 19-20 and 30-31 under 35 USC 103 based upon Feigenbaum should be withdrawn.

V. Added Claims

With this response, claims 53-59 are added and are presented for consideration and allowance. Claims 53-59 are believed to be patentably distinct over the prior art of record.

A. Claims 53 and 54

Claim 53 and 54 depend from claims 1 and 23, respectively, and recite at the first structure consists of a single integral unitary structure. The prior art of record fails to disclose or suggest the circuit board assembly or the unit of claims 53 and 54. Thus, claim 53 and 54 are presented for consideration and allowance.

B. Claims 55-59

Claims 55-59 depend from claim 50 which correspond to former depending claim 13 rewritten in independent form. Claim 55-59 correspond to former claims 14-18, respectively, which depended from claim 13. Accordingly, claim 55-59 are presented for consideration and allowance.

VI. Conclusion

After amending the claims as set forth above, claims 1-32, 44 and 50-59 are now pending in this application.

Applicants believe that the present application is now in condition for allowance. Favorable reconsideration of the application as amended is respectfully requested.

The Examiner is invited to contact the undersigned by telephone if it is felt that a telephone interview would advance the prosecution of the present application.

The Commissioner is hereby authorized to charge any additional fees which may be required regarding this application under 37 C.F.R. §§ 1.16-1.17, or credit any overpayment, to Deposit Account No. 08-2025. Should no proper payment be enclosed herewith, as by a check being in the wrong amount, unsigned, post-dated, otherwise improper or informal or even entirely missing, the Commissioner is authorized to charge the unpaid amount to Deposit Account No. 08-2025. If any extensions of time are needed for timely acceptance of papers submitted herewith, Applicants hereby petition for such extension under 37 C.F.R. §1.136 and authorizes payment of any such extensions fees to Deposit Account No. 08-2025.

Respectfully submitted,

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